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Spring 2022 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

February 25, 2022

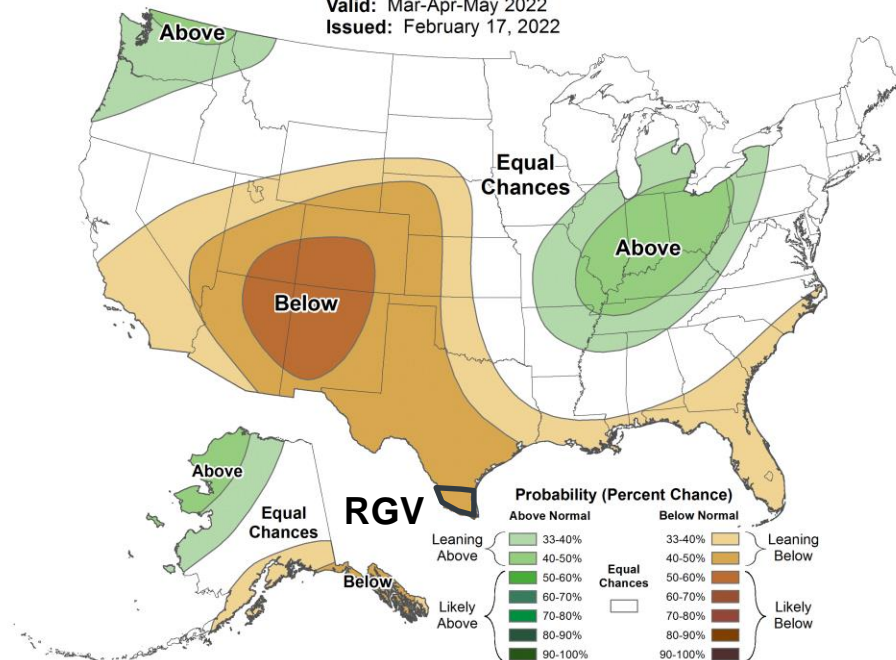
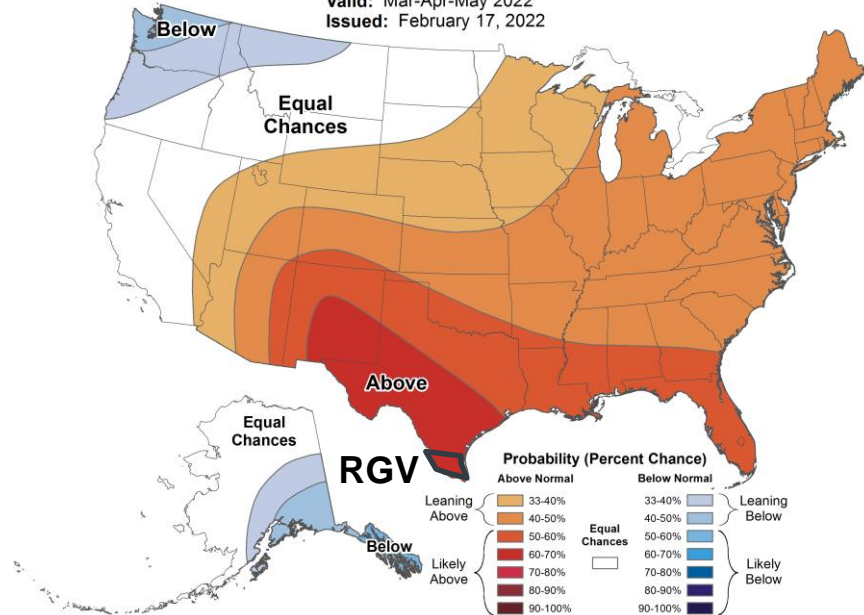
Barry Goldsmith, NWS Brownsville/Rio Grande Valley, Texas



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Key Takeaways



- **Above to much above average temperatures**, and **below to much below average rainfall is forecast...**
- ...but confidence is ***low-medium*** on rainfall, especially for the populated Valley based on the potential for “just-in-time” rain events, especially later in spring
 - **Drought** will continue to worsen across the Rio Grande Plains/Brush Country, and ultimately spread to parts of the Rio Grande Valley. **Extreme or worse drought expected by April in parts of the Rio Grande Plains/Brush Country**, with moderate to severe drought possible elsewhere.
 - **Wildfire spread threat will increase by late March and April**, based on fuel (grass, brush, tree) availability, “curing”/dryness, and the expected warmth and drought. In February, two large ranch fires consumed around 4500 acres in Kenedy and Brooks County. Similar fires are possible as drier/warmer conditions dominate.
 - **May** remains a “wild card”. There is a reasonable chance for **severe weather** in the form of damaging wind, large hail, excessive lightning, and **flooding** should thunderstorm lines or clusters develop or spread into the region from the Sierra Madre.



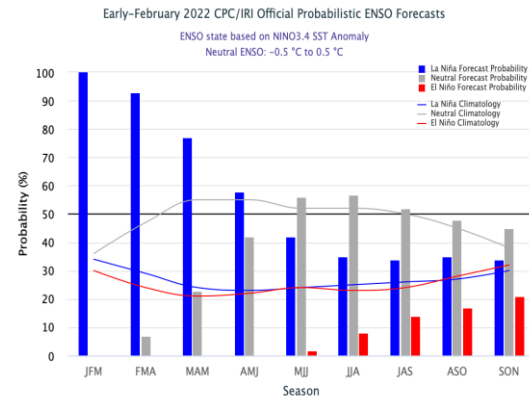
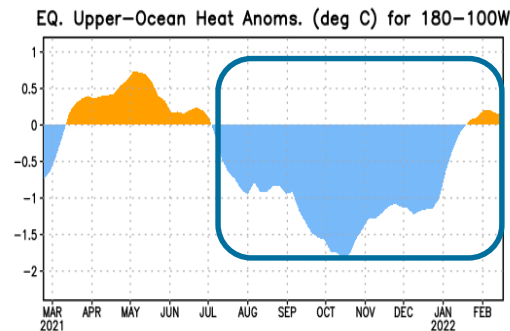
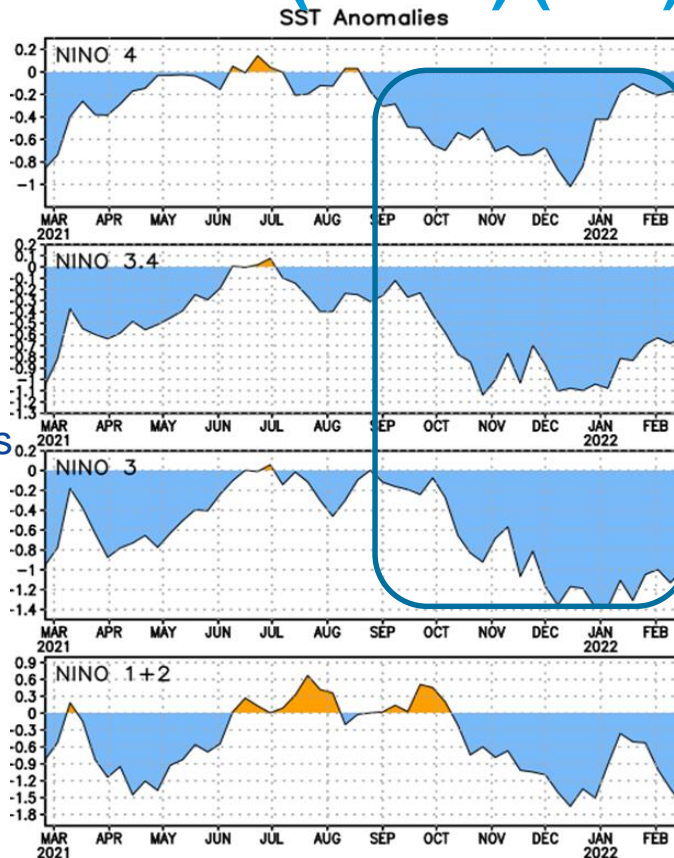
The “Why” of the Forecast:

El Niño/Southern Oscillation (ENSO) (still) in La Niña Phase

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2021	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4	-0.5	-0.7	-0.8	-1.0	-1.0

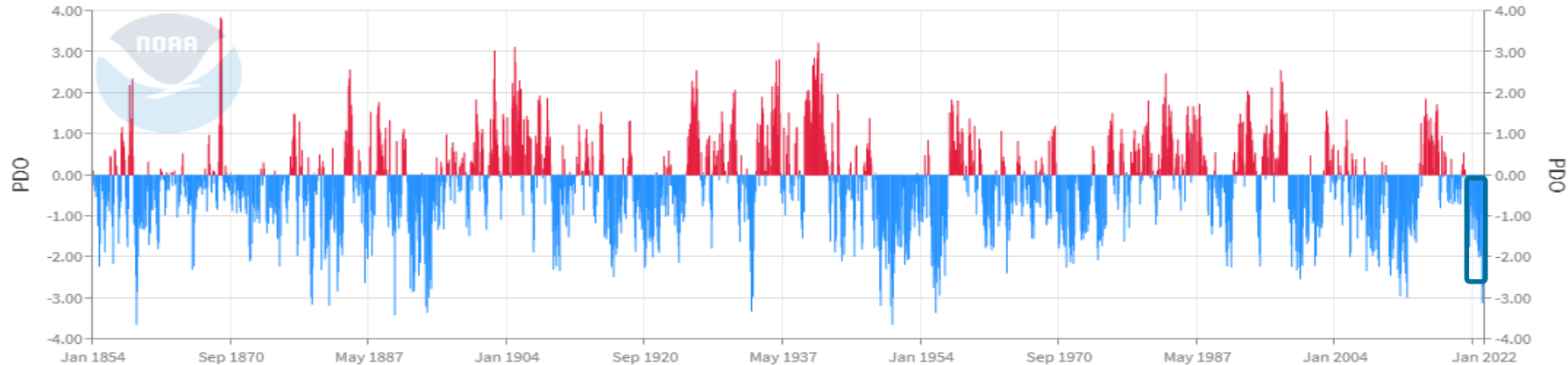
- La Niña is beginning to weaken, but should remain the dominant signal into April
- Neutral conditions are likely to become dominant by the end of April or early May
- This situation typically favors a transition to warm and dry weather in late winter through spring...
- ...but May is a wild card for potential storms/flooding

*Above right: Oceanic Niño Index. Values below -0.5 (light blue) indicate a 3-month La Niña episode.



The “Why” of the Forecast: Pacific Decadal Oscillation (PDO) in Negative Phase

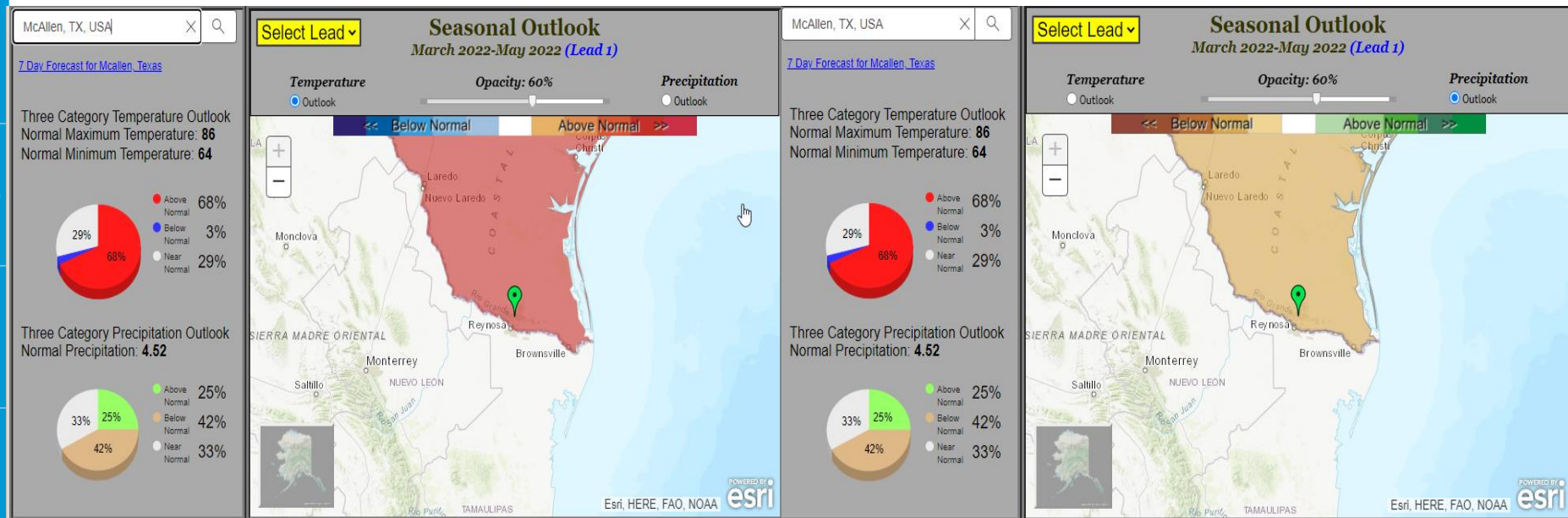
Pacific Decadal Oscillation (PDO)



Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

- Past negative PDOs featured both warmer than average temperatures, and freezes and freezing/frozen precipitation. Such was the case in the winter of 2010/11 and 2021/22. La Niña combined with negative PDO has correlated well with several ranch freeze days in January (3, 16-17, 21) and February (4-6)
- Drier than average conditions are favored into mid spring, but confidence remains low for late spring (May) especially for areas along/east of IH-69C and US 281 (Brooks/Hidalgo)

The Spring 2022 Outlook: Rio Grande Valley (McAllen as Anchor Point)

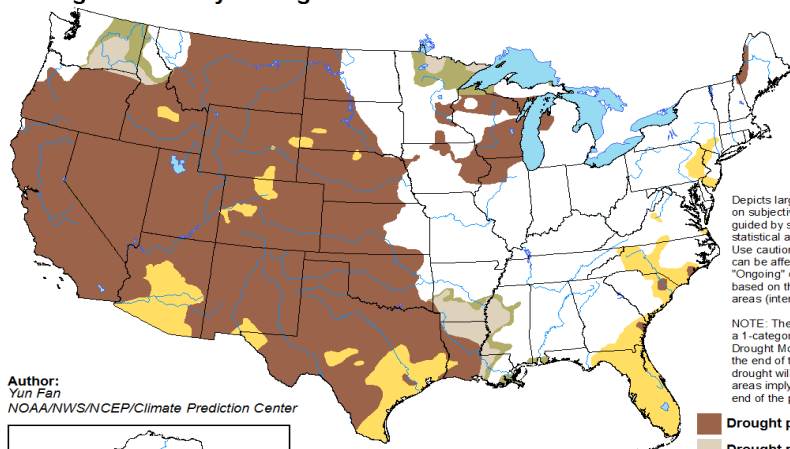


- Temperature: A 66 percent chance of above average. RGV averages (daytime): Rising from near 80 (early Mar.) to the mid 90s (end of May)
- Precipitation: A 42 percent chance of below average. RGV averages: 4" (RG Plains) to 5.5" (coast)
- For each: A less than 5 percent chance of below (temperature) and 25 percent chance of above (precipitation).

The March-May “Droughtlook”

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for February 17 - May 31, 2022
Released February 17



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

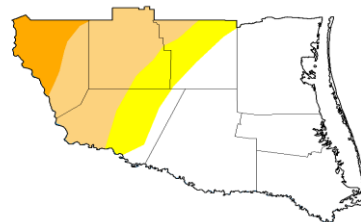
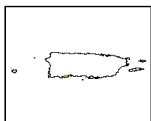
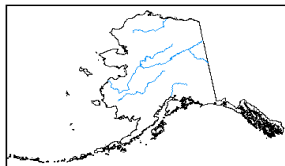
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

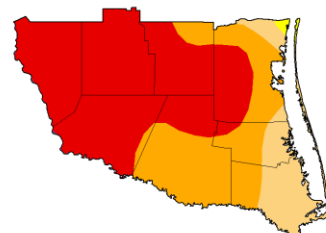


<http://go.usa.gov/3eZ73>

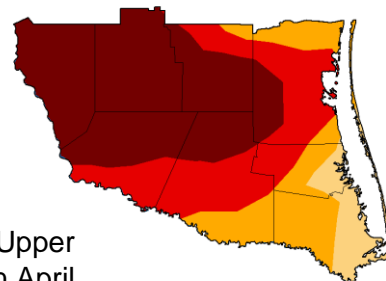
Author:
Yun Fan
NOAA/NWS/NCEP/Climate Prediction Center



February 22, 2022



February 23, 2021



April 27, 2021

Drought Classification

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

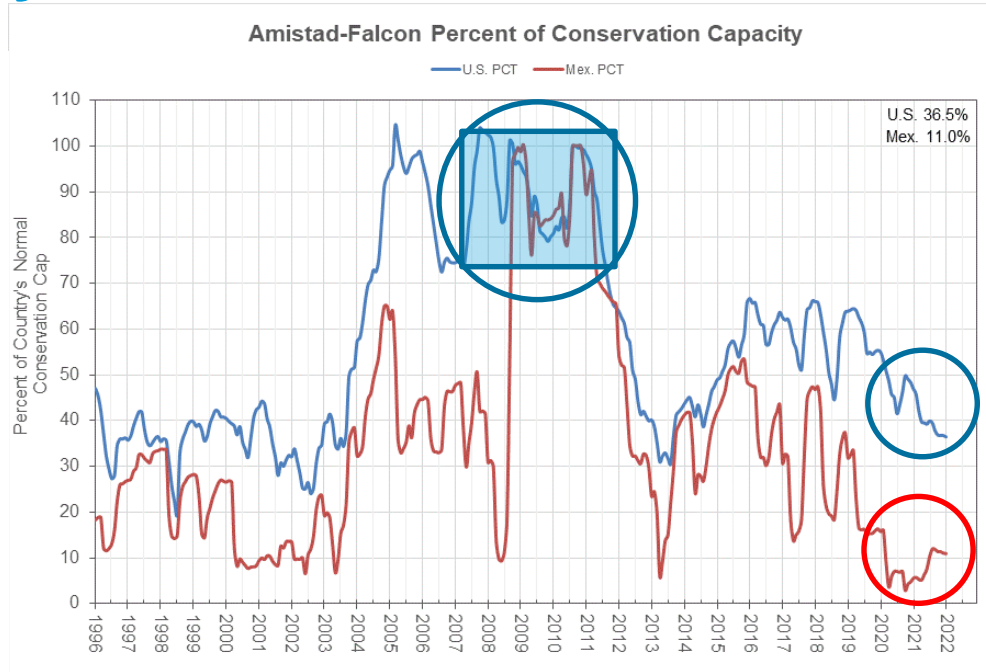
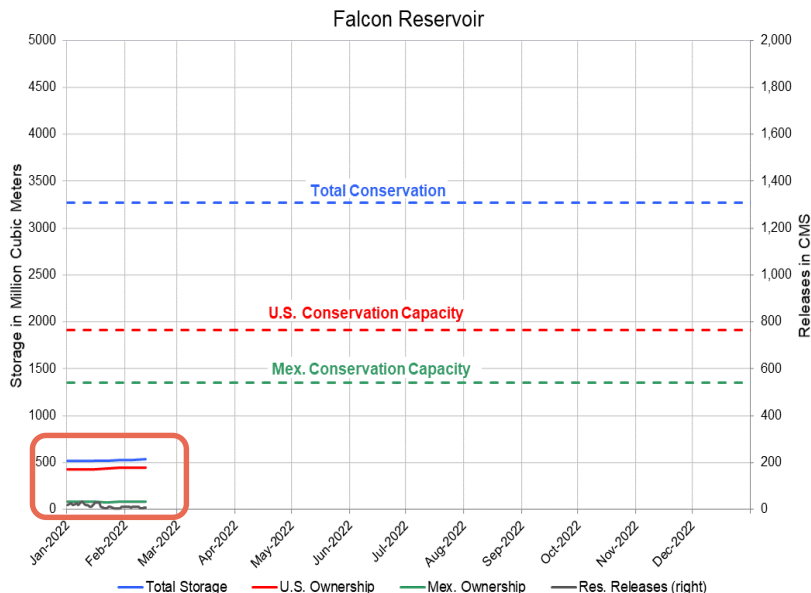
- While drought is expected to worsen (Rio Grande Plains/Brush Country/Upper Valley, **it is not expected to be as intense** at the end of April 2022 as in April 2021...
- ...but the dry, warm/hot forecast especially in March and April 2022 suggest **potential for severe to extreme conditions to develop in these areas**
- May is a wild card. **Little to no rain and hot temperatures** will likely produce conditions similar to those shown **at the end of April 2021.**



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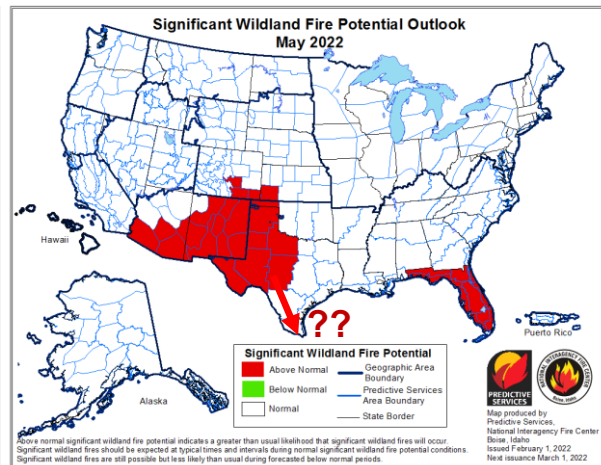
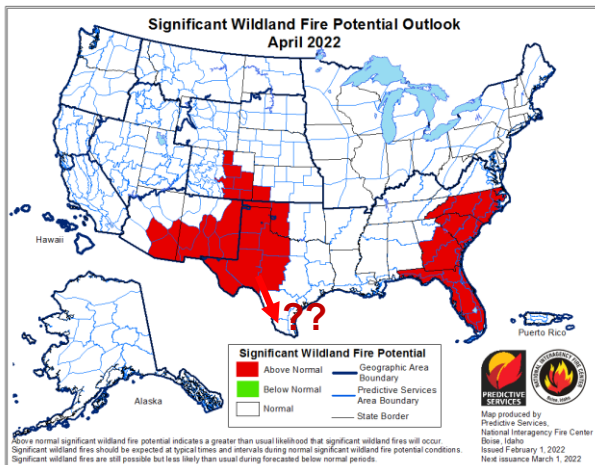
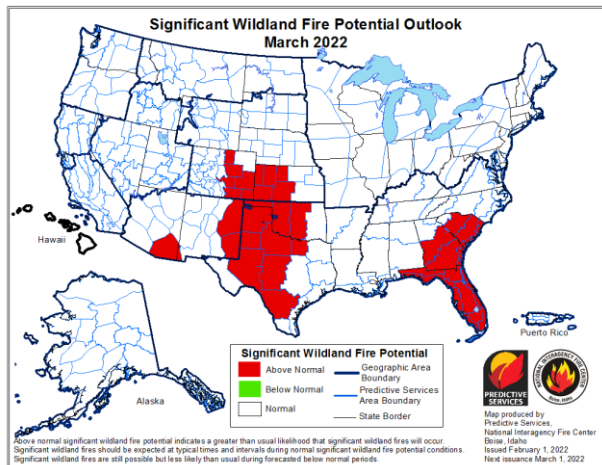
Falcon Reservoir Only a Tad Above 30-year Lows at end of February 2022



- February 2022 total capacity, Falcon Reservoir: **16 percent**
- February 2011 total capacity, Falcon Reservoir: **96 percent**



Wildfire Spread Potential May Build by Mid Spring 2022

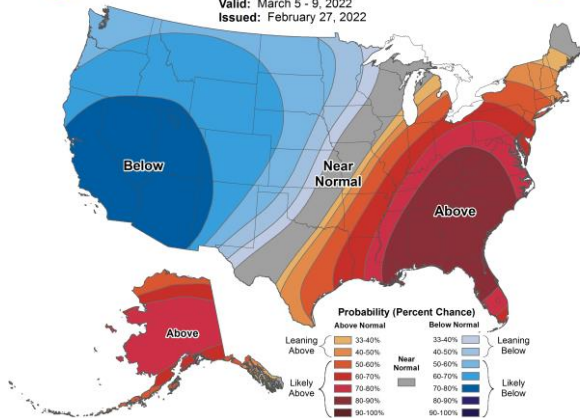


- “Just in Time” rains across the lower/mid Rio Grande Valley continue to keep fuels moist...
- ...but abundant fuels, and multiple “curing” freezes in January and February, are setting the table for potentially active to very active wildfire season in March and April
- The maps above do not include the Deep S. Texas Brush Country or parts of the Valley. This is due to the low dryness levels in early February
- 1-hour fuels (grasses) can dry out rapidly following “dry” spring fronts. 10-1000 hour fuels (brush and timber) could turn from moist to dry in warm to hot and dry weather later in March and April. Favored areas remain west of IH-69C/US 281 from western Brooks/Hidalgo through Zapata County, but all areas will be under threat if temperatures are hot, winds are strong, and rains are limited in May.

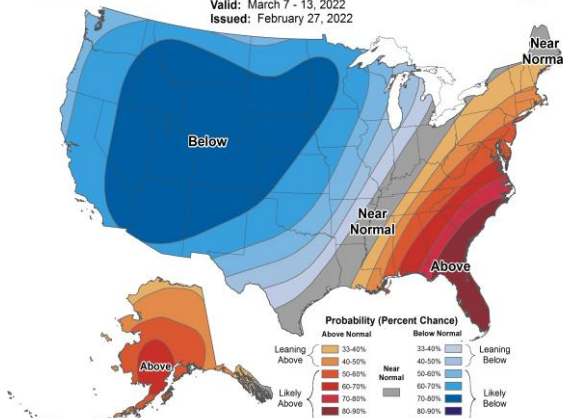


March 2022: Potential for a Persistent Warm Up

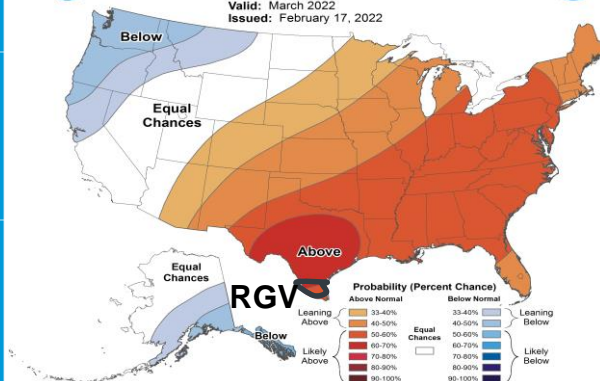
6-10 Day Temperature Outlook
Valid: March 5 - 9, 2022
Issued: February 27, 2022



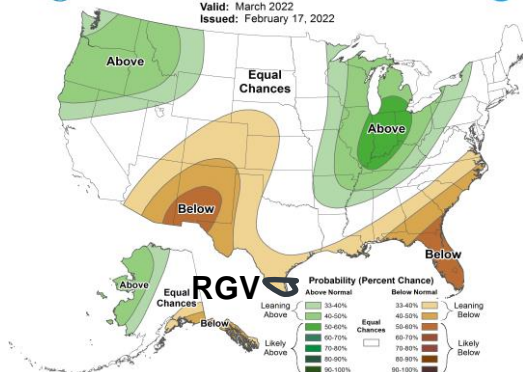
8-14 Day Temperature Outlook
Valid: March 7 - 13, 2022
Issued: February 27, 2022



Monthly Temperature Outlook
Valid: March 2022
Issued: February 17, 2022



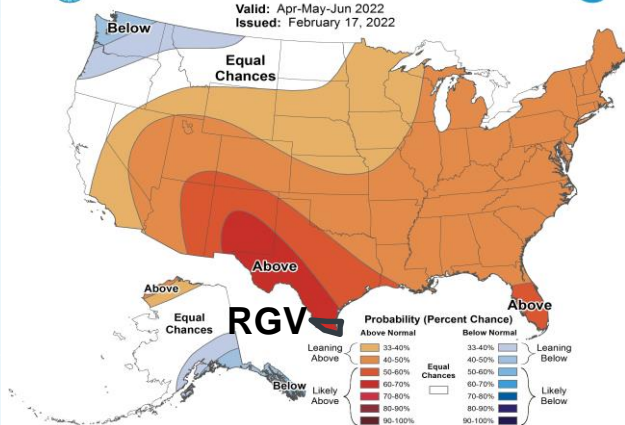
Monthly Precipitation Outlook
Valid: March 2022
Issued: February 17, 2022



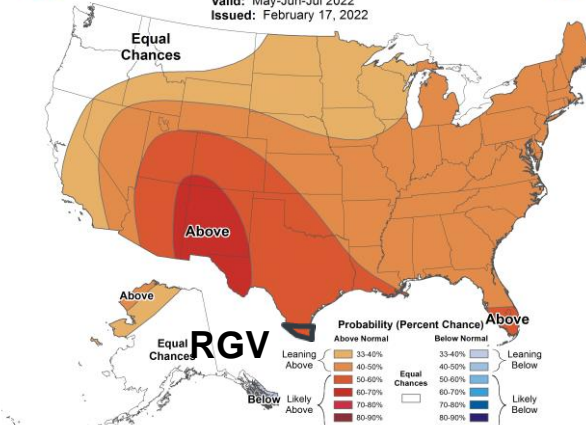
- The first half of March is expected to be **slightly warmer** and a little drier than average
- The second half could **accelerate warming and drying**
- Should this occur, dormant/cured grasses from Brooks-Hidalgo east will “greenup” and crops will begin their spring growth cycle...
- ...but already dry conditions across the Rio Grande Plains/Brush Country will worsen steadily, **increasing the wildfire spread threat**

Late Spring/Summer 2022: Hot/Dry Continuation?

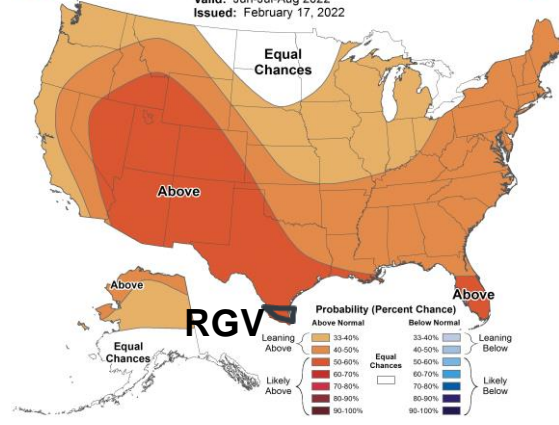
Seasonal Temperature Outlook
Valid: Apr-May-Jun 2022
Issued: February 17, 2022



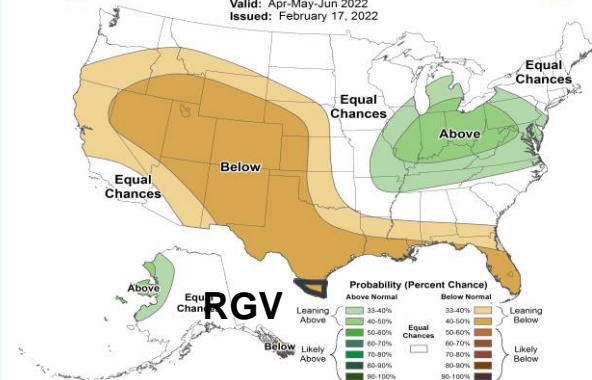
Seasonal Temperature Outlook
Valid: May-Jun-Jul 2022
Issued: February 17, 2022



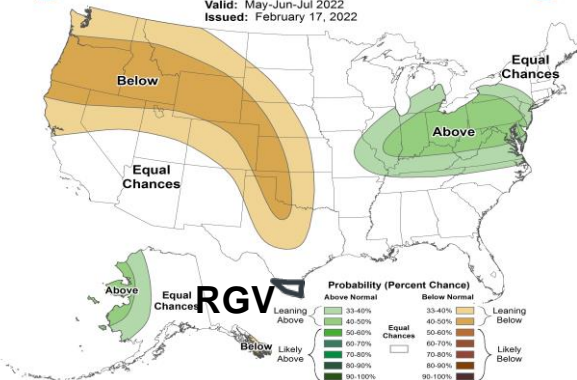
Seasonal Temperature Outlook
Valid: Jun-Jul-Aug 2022
Issued: February 17, 2022



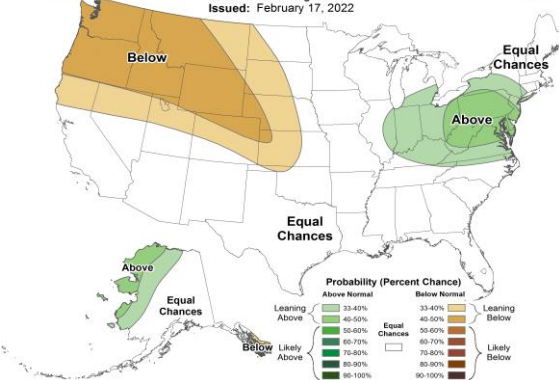
Seasonal Precipitation Outlook
Valid: Apr-May-Jun 2022
Issued: February 17, 2022



Seasonal Precipitation Outlook
Valid: May-Jun-Jul 2022
Issued: February 17, 2022



Seasonal Precipitation Outlook
Valid: Jun-Jul-Aug 2022
Issued: February 17, 2022



Final Thoughts

- **Worsening drought is expected by mid-late spring 2022**, but development along/east of IH-69C/US 281 (eastern Brooks/Hidalgo) may continue to be delayed by “Just in Time” rains. **Occasional rain events continuing into March would be a boon for the spring growing season in the Valley**
- Early spring is the time to review **agriculture and municipal water plans** in case of shortages by late spring, **especially from western Hidalgo/Brooks to Zapata.**
- **Wildfire growth and rapid spread is a concern by late March and especially April** based on this forecast. The combination of freeze-cured and relatively abundant grasses and brush (known as “fuel loading”) with increasingly warm, breezy to windy, and dry weather is a key reason. Wildland managers, ranchers, and fire services should plan mitigation strategies in February/early March to be ready for late spring.
- **May remains a “wild card”** with low confidence/high uncertainty in the rainfall forecast. A **hotter and drier** month would produce widespread **severe to extreme drought**, along with the threat of **rapid to extreme wildfire growth**. A **wetter** (and less hot) month would reduce these impacts and be a **continued boon to agriculture**
- However, rain events in May would be in the **form of thunderstorms**, with capability to produce **flooding rains**, **frequent cloud-ground lightning**, and **local wind damage and large hail.**

